



CMMISM Appraisal Overview

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CMMI Appraisal Method Status

V1.0 assessment products published October 2000

- **Assessment Requirements for CMMI (ARC)**
- **Standard CMMI Assessment Method for Process Improvement (SCAMPISM)**

Several pilot appraisals performed in 2000 (Phase I) and 2001 (Phase II)

V1.1 primary objectives:

- **Performance improvements**
- **Integrated appraisal method (assessments and evaluations)**
- **Detailed method definition and guidance**

ARC and SCAMPI revisions currently in publication cycle



AMIT Membership

Jim Armstrong
(SPC)

Rick Barbour
(SEI)

Dan Bennett
(USAF STSC)

Ben Berauer
(Raytheon)

Tom Bernard
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Mary Busby
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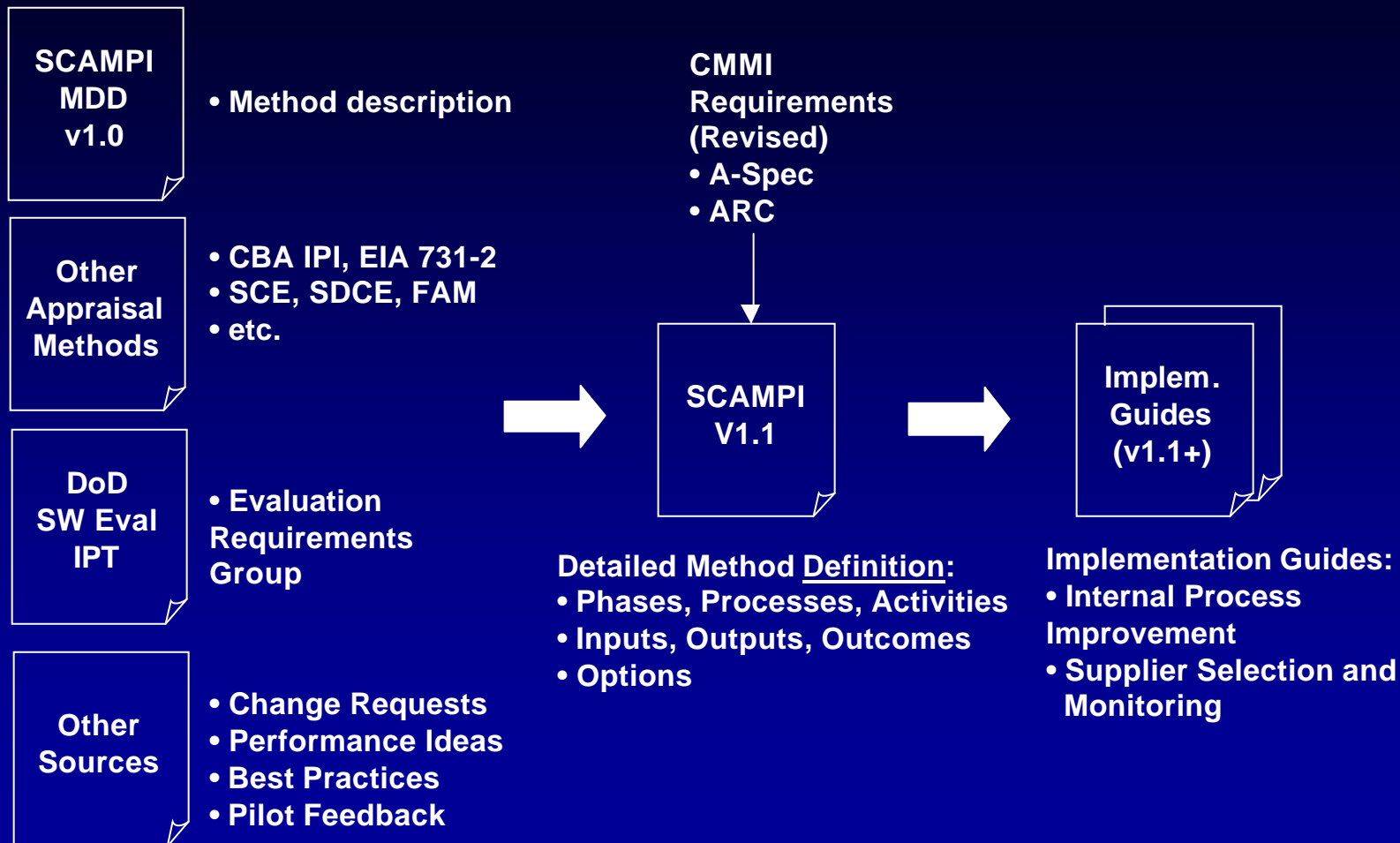
Joseph Morin
(ISD, Inc.)

Paul Riviere
(U.S. Army CECOM)

Charlie Ryan
(SEI)



SCAMPI Method Definition Document (MDD) Transition





Summary of ARC Changes

Global replace: assessment to appraisal

Supplier feedback of evaluation results (draft findings, final findings), per Evaluation IPT

Defined appraisal input (a major portion of the appraisal plan) subject to sponsor approval and change control (per 15504)

Greater clarity in Class A, B, C descriptions and relationships in overall appraisal strategy

Confidence report requirement deleted, intent can be otherwise satisfied (e.g., risks)

15504 conformance is optional for Class A methods; selected 15504-specific requirements may not apply



SCAMPI Improvement Strategy

Shift appraisal team focus from discovery to verification

- **Leverage pre-onsite analysis of organization model implementation (documentation, mapping, etc.)**

Integrated data collection and continuous consolidation

- **Prioritize areas for focused investigation based on data collection, analysis, and sufficiency of coverage (i.e., “triage”)**

Provide detailed method definition and implementation guidance

- **Support clarity, consistency, repeatability**
- **Organize content for efficient usage in the field**



SCAMPI Assumptions and Design Principles

- 1. SCAMPI is positioned as a Class A benchmarking method.**
- 2. Goal ratings are a function of the extent to which the corresponding practices are present in the planned and implemented processes of the organization.**
- 3. The aggregation of objective evidence provided is used as the basis for determination of practice implementation.**
- 4. Practice implementation at the organizational unit level is a function of the degree of practice implementation at the instantiation level (e.g., projects)**
- 5. Appraisal teams are obligated to seek and consider objective evidence of multiple types in determining practice implementation and goal satisfaction.**



What are Practice Implementation Indicators?

The fundamental idea of practice implementation indicators (PIIs) is quite simple and broadly applicable to any practice or activity; it is based on the presumption that the conduct of an activity or the implementation of a practice will result in “footprints” which are attributable to the activity or practice.





Objective Evidence Data Types

Direct Artifacts

- Tangible outputs resulting directly from implementation of a practice
(e.g., Typical Work Products)

Indirect Artifacts

- Artifacts that are a consequence or indicative of performing a practice
(e.g., meeting minutes, reviews, logs, reports)

Affirmations

- Oral or written statements confirming or supporting implementation of the practice
(e.g, interviews, questionnaires)



Example – Indicators of Practice Implementation

PP SP1.1-1:

Indirect artifact:

-minutes of meetings at which WBS was generated or used to develop project estimates

Primary artifact:

**-top-level WBS, with revision history
-task descriptions
-work product descriptions**

Establish and maintain

a top-level work breakdown structure (WBS)

for estimating the scope of the project.

Indirect artifact:

- project estimates aligned with WBS elements

Affirmation:

**- how is the WBS used?
- how are estimates generated?**



Characterizing Practice Implementation

Assign characterization values reflecting the extent of practice implementation for each instance

Aggregate practice characterizations to organizational unit level

Iterate and focus revisions to data collection plan

Generate findings based on aggregation of strengths and weaknesses



Characterizing Practice Implementation - 2

Fully Implemented (FI)	<ul style="list-style-type: none">• Primary artifacts present and appropriate• Corroborated by indirect artifact and/or affirmation• No substantial weaknesses noted
Largely Implemented (LI)	<ul style="list-style-type: none">• Primary artifacts present and appropriate• Corroborated by indirect artifact and/or affirmation• One or more weaknesses noted
Partially Implemented (PI)	<ul style="list-style-type: none">• Primary artifact absent or judged inadequate• Artifacts or affirmations indicate some aspects of the practice are implemented• Weaknesses are noted
Not Implemented (NI)	<ul style="list-style-type: none">• Any situation not covered by above



Rating Structure Paradigm





MDD v1.1 Outline

Front Matter

Introductory
Prose

Executive
Summary for the
Appraisal Sponsor

Doc. Overview

Part1 Descriptive name
and information

Part2 Descriptive name
and information

...

Part N Descriptive name
and information

Method Overview
with audience-
specific summary
of this document

Primary Reference Material

Phase I:
Plan and Prepare
for Appraisal

Phase II:
Conduct
Appraisal

Phase III:
Report
Results

Appendices

Glossary

SCAMPI
Appraisal
Disclosure
Statement (ADS)

Role of PIIs in
Verifying Practice
Implementation

ARC/MDD
Traceability

Focused
Investigation
Elaboration and
Guidance



MDD Structure

3.1 Analyze Requirements					
Purpose	Understand the business needs of the organization for whom the appraisal is being requested. The Appraisal Team Leader will collect information and help the appraisal sponsor match appraisal objectives with their business objectives.				
Entry Criteria	Initial contact between the appraisal sponsor and authorized SCAMPI Lead				
Inputs	<table border="1"> <tr> <td>Appraiser has occurred of the sponsoring</td><td>3.1.1 Determine Appraisal Objectives</td></tr> <tr> <td> <ul style="list-style-type: none"> Sponsor, Initial Requirement Process-related </td><td> <p>Activity Description</p> <p>The business needs for process improvement drive the requirements for the conduct of any given appraisal, and generally include one or more of three closely related factors:</p> <ul style="list-style-type: none"> Reducing costs Improving quality, and Decreasing time to market <p>The fundamental premise of process improvement is that organizational processes significantly impact these factors.</p> <p>A fair and objective characterization of the process in use in the organization(s) is the essential reason for conducting an appraisal. In addition to this motivation, a sponsor's desire to conduct an appraisal could be driven by one or more of the following business related goals:</p> <ul style="list-style-type: none"> Document a credible benchmark that reflects successful process improvement Evaluate areas of potential risk that may effect the performance of the organization Involve members of the appraised organization in improving the performance of the process Support specific decisions related to the direction of a new or existing improvement program Motivate a supplier to focus on process issues that affect their performance on a contract </td></tr> </table>	Appraiser has occurred of the sponsoring	3.1.1 Determine Appraisal Objectives	<ul style="list-style-type: none"> Sponsor, Initial Requirement Process-related 	<p>Activity Description</p> <p>The business needs for process improvement drive the requirements for the conduct of any given appraisal, and generally include one or more of three closely related factors:</p> <ul style="list-style-type: none"> Reducing costs Improving quality, and Decreasing time to market <p>The fundamental premise of process improvement is that organizational processes significantly impact these factors.</p> <p>A fair and objective characterization of the process in use in the organization(s) is the essential reason for conducting an appraisal. In addition to this motivation, a sponsor's desire to conduct an appraisal could be driven by one or more of the following business related goals:</p> <ul style="list-style-type: none"> Document a credible benchmark that reflects successful process improvement Evaluate areas of potential risk that may effect the performance of the organization Involve members of the appraised organization in improving the performance of the process Support specific decisions related to the direction of a new or existing improvement program Motivate a supplier to focus on process issues that affect their performance on a contract
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Outputs	Appraisal Input				
Outcome	The decision to perform the appraisal objective				
Exit Criteria	The appraisal input under change management				
	<table border="1"> <tr> <td>Required Practices</td><td> Identify sponsor and relevant stakeholders, and establish communication. Document business and appraisal objectives Assure alignment of appraisal objectives to business objectives Determine and document appraisal usage mode (internal process improvement, supplier selection, process monitoring). </td></tr> <tr> <td>Parameters and Limits</td><td>At least one communication between appraisal team leader and sponsor (Some usage modes may limit this significantly, others may require much more than one interaction).</td></tr> </table>	Required Practices	Identify sponsor and relevant stakeholders, and establish communication. Document business and appraisal objectives Assure alignment of appraisal objectives to business objectives Determine and document appraisal usage mode (internal process improvement, supplier selection, process monitoring).	Parameters and Limits	At least one communication between appraisal team leader and sponsor (Some usage modes may limit this significantly, others may require much more than one interaction).
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Phases (3)

Processes (11)

- Entry / exit criteria, inputs, outputs, activities, etc.

Activities (43)

- Activity Description
- Required Practices
- Parameters and Limits
- Optional Practices
- Implementation Guidance



Summary - CMMI Appraisal Method

ARC and SCAMPI v1.1 revisions currently in final stages of completion

- Performance improvements
- Integrated appraisal method (assessments and evaluations)
- Detailed method definition and guidance

Fundamental SCAMPI concepts

- Verification vs. discovery
- Indicator-driven appraisals
- Focused investigation (Integrated data collection and continuous consolidation)



For More Information...

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